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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,459	11/08/2001	Chi-Kyun Park	3927-5	5072

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Arlington, VA 22201

EXAMINER

TSANG FOSTER, SUSY N

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 01/02/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,459

Applicant(s)

PARK ET AL.

Examiner

Susy N Tsang-Foster

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-61 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-36, drawn to a gel polymer electrolyte, a gellable electrolyte, and a rechargeable battery comprising the gel polymer electrolyte, classified in class 429, subclass 300.
 - II. Claims 37-61, drawn to a method of making a rechargeable battery, classified in class 29, subclass 623.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group I and Group II are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the battery of claim 37 can be made with the gel electrolyte formed outside the battery case.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. This application contains claims directed to the following patentably distinct species of the claimed invention:

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Category 1 – a component (A) of the gel electrolyte is to be selected from the following species: 1) polymer containing pyridines, 2) polymer containing pyridazines, 3) polymer containing pyrimidines, 4) polymer containing pyrazines, 5) polymer containing a triazines, 6) polymer containing triazoles, 7) polymer containing thiazoles, 8) polymer containing thiadiazoles, 9) polymer containing compounds containing five or more carbon atoms in addition to at least one nitrogen atom, 10) copolymer containing pyridines, 11) copolymer containing pyridazines, 12) copolymer containing pyrimidines, 13) copolymer containing pyrazines, 14) copolymer containing a triazines, 15) copolymer containing triazoles, 16) copolymer containing thiazoles, 17) copolymer containing thiadiazoles, 18) copolymer containing compounds containing five or more carbon atoms in addition to at least one nitrogen atom, 19) oligomer containing pyridines, 20) oligomer containing pyridazines, 21) oligomer containing pyrimidines, 22) oligomer containing pyrazines, 23) oligomer containing a triazines, 24) oligomer containing triazoles, 25) oligomer containing thiazoles, 26) oligomer containing thiadiazoles, 27) oligomer containing compounds containing five or more carbon atoms in addition to at least one nitrogen atom, 28) monomer containing pyridines, 29) monomer containing pyridazines, 30) monomer containing pyrimidines, 31) monomer containing pyrazines, 32) monomer containing a triazines, 33) monomer containing triazoles, 34) monomer containing thiazoles, 35) monomer containing thiadiazoles, and 36) monomer containing compounds containing five or more carbon atoms in addition to at least one nitrogen atom.

Category 2 – a component (B) of the gel electrolyte is to be selected from the either a) a halide group containing material or b) an epoxy group containing material.

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If the halide group containing material is selected as component (B) in the gel electrolyte, then one species must be elected from the following species claimed: 1) polymer containing halomethyl benzene, 2) polymer containing halomethyl naphthalene, 3) polymer containing halomethyl biphenyl, 4) polymer containing bis(halomethyl) benzene, 5) polymer containing bis(halomethyl) naphthalene, 6) polymer containing bis(halomethyl) biphenyl, 7) polymer containing tris(halomethyl) benzene, 8) polymer containing tris(halomethyl) naphthalene, 9) polymer containing tris(halomethyl) biphenyl, 10) polymer containing tetrakis(halomethyl) benzene, 11) polymer containing tetrakis(halomethyl) naphthalene, 12) polymer containing tetrakis(halomethyl) biphenyl, 13) polymer containing halomethylstyrene,

14) copolymer containing halomethyl benzene, 15) copolymer containing halomethyl naphthalene, 16) copolymer containing halomethyl biphenyl, 17) copolymer containing bis(halomethyl) benzene, 18) copolymer containing bis(halomethyl) naphthalene, 19) copolymer containing bis(halomethyl) biphenyl, 20) copolymer containing tris(halomethyl) benzene, 21) copolymer containing tris(halomethyl) naphthalene, 22) copolymer containing tris(halomethyl) biphenyl, 23) copolymer containing tetrakis(halomethyl) benzene, 24) copolymer containing tetrakis(halomethyl) naphthalene, 25) copolymer containing tetrakis(halomethyl) biphenyl, 26) copolymer containing halomethylstyrene, 27) monomer containing halomethyl benzene, 28) monomer containing halomethyl naphthalene, 29) monomer containing halomethyl biphenyl, 30) monomer containing bis(halomethyl) benzene, 31) monomer containing bis(halomethyl) naphthalene, 32) monomer containing bis(halomethyl) biphenyl, 33) monomer containing tris(halomethyl) benzene, 34) monomer containing tris(halomethyl) naphthalene, 35) monomer containing tris(halomethyl) biphenyl, 36) monomer containing tetrakis(halomethyl) benzene, 37)

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monomer containing tetrakis(halomethyl) naphthalene, 38) monomer containing tetrakis(halomethyl) biphenyl, and 39) monomer containing halomethylstyrene, and 40) a nonaromatic halide having C2 or greater alkanes which include diiodo groups, triiodo or tetraiodo groups.

If the epoxy group containing material is selected as component (B) in the gel electrolyte, then one species must be elected from the following species claimed: 1) an oligomer having at least one epoxy unit, 2) 3,4-epoxycyclohexylmethyl-3',4'-epoxycyclohexane carboxylate, 3) glycidyl dodecafluoroheptylether, 4) polypropylene glycol diglycidyl ether, 5) glycidyl dodecafluoroheptylether, 6) butadiene diepoxide, 7) butanediol diglycidyl ether, 8) cyclohexene oxide, 9) cyclopentene oxide, 10) diepoxy cyclooctane, 11) ethylene glycol diglycidyl ether, and 12) 1,2-epoxy hexane.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from each category above for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 18, and 37 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after

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the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (703) 305-0588. The examiner can normally be reached on Monday through Thursday from 9:30 AM to 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (703) 308-2383. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900.

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The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9310 for regular communications and (703) 872-9311 for After-Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

st/30 December 2002

Ausy Isany-Foster